

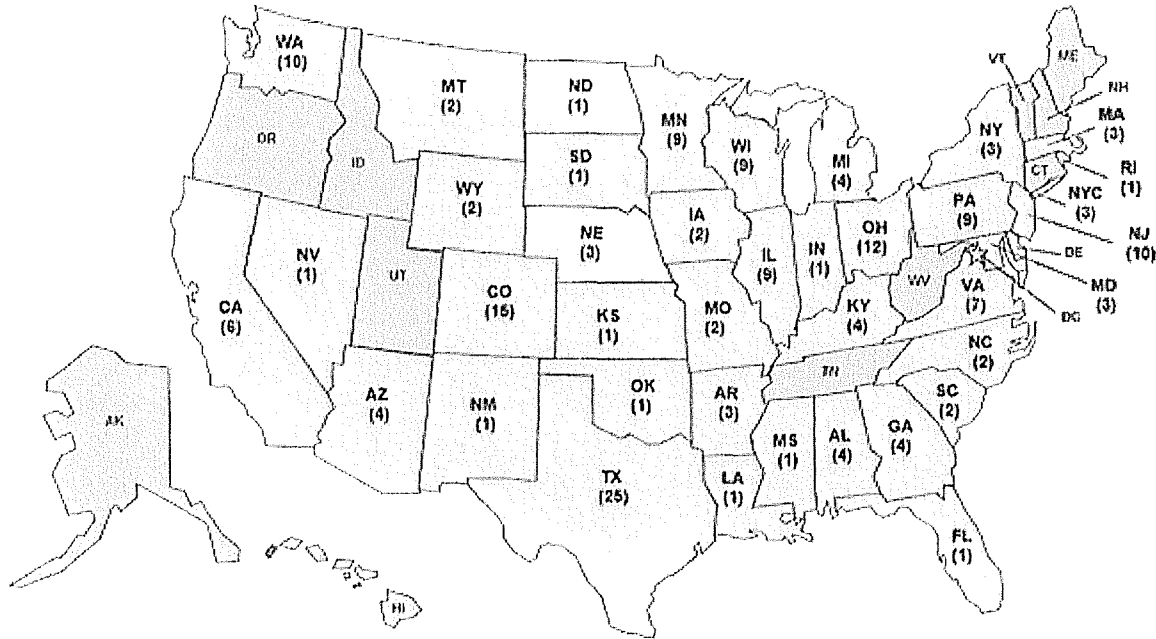
**EXHIBIT NO.**

**14**

### 3rd case of polio-like disease confirmed in Massachusetts, more suspected

Posted Dec 27, 2018

#### 2018 confirmed cases of acute flaccid myelitis (AFM) by state (N=182)\*



\*Confirmed AFM cases as of December 21, 2018. Patients under investigation are still being classified, and the case counts are subject to change. Case counts will be updated every Monday.

The Centers for Disease Control and Prevention has posted a map showing as of Dec. 21 which states have confirmed cases to date this year of the polio-like disease acute flaccid myelitis. (CDC graphic)

Comment

Masslive.com

#### By Anne-Gerard Flynn | Special to The Republican

The number of confirmed cases of acute flaccid myelitis, a rare polio-like disease, has increased by one in Massachusetts while cases under investigation have increased by two.

According to the Massachusetts Department of Public Health, there are now "3 confirmed, 1 probable and 5 suspect cases of AFM in Massachusetts."

The Centers for Disease Control and Prevention weekly report on the emerging disease indicates there are currently 182 confirmed cases of AFM in 38 states as well as in New York City to date this year among a total of 336 reports that the CDC has received of patients under investigation for AFM as of Dec. 21.

States reporting their first confirmed cases as of Dec. 21 include Florida and South Dakota. States with no confirmed cases to date this year include Alaska, Connecticut, Delaware, Hawaii, Idaho, Maine, New Hampshire, Oregon, Tennessee, Utah, Vermont and West Virginia as well as the District of Columbia.

Although a rare condition, the CDC began to release weekly reports in October of patients under investigation for AFM after noting an increase starting in August as certain seasonal viruses begin to circulate.

At that time, Massachusetts had two confirmed cases and four suspected cases, with the CDC reporting 62 confirmed cases in 22 states as of Oct. 17.

There is no specific clinical management for the disease that involves the expertise of both infectious disease specialists and neurologists, and it can take the CDC a few weeks to classify and confirm suspected cases sent by state health departments.

AFM is defined by the Council of State and Territorial Epidemiologists as a "rare and very serious condition that affects the nervous system causing weakness in the arms or legs and is, in some instances, also associated with long-term disability."

The disease, which is seen mainly in children, has been compared to poliomyelitis because its symptoms can include limb paralysis, though the CDC has said no confirmed cases have yet to test positive for the polio virus.

It can be diagnosed through spinal cord fluid and an MRI, but no single pathogen or specific inflammatory process has been identified yet as the cause of AFM. Evidence of a virus, the CDC has said, has been more often found in respiratory and stool samples than in spinal fluid.

The CDC has detected coxsackievirus A16, EV-A71 and EV-D68 in the spinal fluid of four of 508 confirmed cases of AFM since 2014, when it began tracking the disease. For all other patients, the CDC has said, no pathogen has been detected in their spinal fluid to confirm a cause.

The onset of AFM sometimes presents first as a respiratory condition and then progresses to muscle weakness, including facial droop or weakness. Parents are urged to contact their health care provider if they notice such symptoms.

5 questions and answers about acute flaccid myelitis, the polio-like illness confirmed in two Mass. children

The state Department of Public Health is investigating four other suspected cases of the condition.

—David Goldman / AP, File Boston.com

By

*David Goldman*

October 19, 2018

Two children in Massachusetts have contracted a serious, rare illness that causes muscle weakness and paralysis, according to the state's Department of Public Health.

The state's first case this year of acute flaccid myelitis, or AFM, was confirmed in August, according to the department, which is investigating four other suspected cases. There is no specific treatment or cure for the illness.

*INTERVIEW*

The Centers for Disease Control and Prevention has been actively investigating AFM since 2014 and “monitoring” the activity of the disease. According to the CDC, from August 2014 through September 2018, 386 confirmed cases of AFM have been reported to the federal agency, and the cause for the majority of the cases has not been confirmed. So far in 2018, 62 cases have been confirmed in 22 states.

ADVERTISEMENT

We spoke with Dr. Leslie Benson, assistant director of the neuro-immunology program at Boston Children's Hospital, to learn more about the illness, which has been described as being similar to polio.

### **What is acute flaccid myelitis?**

It is not “totally clear” what causes AFM, Benson explained.

“Most likely it appears to be a viral infection — specifically a fairly common viral infection,” she said. “But we don't know why in some patients it may affect the

spinal cord. When it does infect the spinal column or parts of the brain stem, it can cause fairly sudden onset weakness and paralysis.”

The effects of AMF range from weakness of the facial muscles to problems with bladder control to weakened breathing.

“It’s not just one virus that can do this. There are a few viruses that can do this,” she said. “And we can’t always detect them in each individual patient for a variety of reasons.”

The vast majority of cases are in children, particularly young kids, Benson said. She said in her experience, four is the average age of the patients, though it is possible in younger children.

“I’ve seen [it in] anyone from one to two, up to teenagers,” she said.

### **What is the treatment?**

#### ADVERTISEMENT

There’s no specific treatment that helps or reverses the effects of the condition.

“The main part of treatment is supportive,” Benson said. “If they can’t breathe, we put them on a ventilator. If they are having pain, we treat their pain. We give them a lot of physical therapy, and they get a lot of rehabilitation.”

While patients can show gradual improvement, she said that many are left with permanent long-term weakness.

### **Why is it being described as polio-like?**

Benson said the polio virus is not the culprit in the AFM cases.

“[AFM is] described as ‘polio-like’ because it sort of acts a lot like polio in the way that we believe it’s a viral infection of the motor nerves in the spinal cord,” she said. “And, really, polio is the classic thing that does that or did that.”

### **How common is AMF?**

“In a general sense, it’s very rare,” she said. “However this year, two years ago, four years ago — so 2014 and 2016 — we definitely saw, along with the rest of the country, clusters of cases where we had multiple patients in the span of a couple of

months. And it didn't feel rare during those clusters on a neurology ward, but in between those clusters, we really don't see this condition often at all."

The season for the illness, when it occurs, appears to be August, September, and October, Benson said.

### **What are the symptoms to watch for?**

Benson said she's hopeful there won't be a lot more cases in Massachusetts since the season is likely coming to a close.

### **ADVERTISEMENT**

"The symptoms most often are weakness of an extremity starting in one and sometimes spreading to other extremities," she said. "And sometimes it's a shoulder or a hip that are the first sign of weakness. It can also be pain associated in the back or in the limb that's affected. Those are the biggest, first signs that there's something going on."

In addition to the sudden onset of muscle weakness, the state public health department said slurred speech, difficulty swallowing, and difficulty moving the eyes can also be experienced by patients.

"It's a scary thing, and it's hard not to be fearful for your own child, but it's also an extremely rare thing," Benson said. "The only thing within people's control is good infection control."

That includes coughing into your elbow, washing your hands, and taking the precautions you would normally take to avoid the common cold.

"So other than kind of general precautions, there's not a lot to do," she said. "But certainly if someone has been sick and starts to notice their child isn't walking or moving correctly, you should get that checked out as soon as possible."